



# Energy efficiency quick wins



**SAVE MONEY THIS WINTER**



The cost of energy bills is a great concern to many people, particularly as we head into the winter months. Living in a cold home can negatively impact health, yet it's estimated that around 2.5 million households in England (about one in nine) struggle with fuel poverty.

This means they can't afford to keep their homes adequately warm without falling below the poverty line. Despite being a key driver for change in this area, energy efficiency improvements to housing stock have slowed in recent years.

Globally, energy consumption has risen significantly over the past few years, impacting our planet and its natural resources. Improving energy efficiency is therefore important at an individual level and to the world at large.

## WHAT IS ENERGY EFFICIENCY?

Energy efficiency is about using less energy to achieve the same level of comfort, therefore reducing energy wastage and improving return on investment. For example, the addition of heating controls allows less energy to be used to achieve the same level of comfort.

Energy efficiency goes hand-in-hand with energy conservation. Being more conscious of energy usage and changing our habits and behaviour can greatly reduce annual household energy consumption, bringing bills down even further.

## BENEFITS OF IMPROVING HOME ENERGY EFFICIENCY

Increasing home energy efficiency brings a variety of benefits:

- Reduce energy usage and eliminate wastage
- Drive down the cost of utility bills
- Improve the general comfort and condition of your home. Keeping your property well maintained makes it more comfortable to live in and prevents issues that can lead to future deterioration, such as damp.

There are many things you can do improve the home energy efficiency, depending on property-type and budget. Energy saving doesn't have to be costly, however – by simply changing your behaviour you can save money.

## BOOST BOILER EFFICIENCY

Boilers account for 83% of domestic energy consumption and space and water heating make up over half of the average energy bill; if you want to save money, it makes sense to make improvements in this area.

Boiler efficiency has improved significantly in recent years with the introduction of legislation such as Boiler Plus raising industry standards. Consequently, new boilers are much more efficient and cost less money to run.

Replacing a 15-year-old boiler with a new, high-efficiency combi-boiler could save up to £300 per year in energy costs.

Whether your boiler is over 15 years old or brand-new, keep it in good working condition by having annual boiler service checks carried out by a Gas Safe registered engineer, who will also be able to advise about further controls that could boost heating efficiency (see below).

## GET SMART HEATING CONTROLS:

Under Boiler Plus, new combi boiler installations must include additional energy saving technologies which boost efficiency. Options include weather compensation, load compensation and smart controls with optimisation technology.

Weather and load compensation controls are designed to work with 'modulating' boilers. Weather compensation works particularly well for seasonal climate in the UK, adjusting the boiler output to compensate for the changing outdoor temperature and potentially saving up to 15% more fuel.

These controls can help boilers to achieve greater efficiencies but to ensure effective communication you'll need to either use the manufacturers own controls or make sure the boiler and controls are OpenTherm compliant.

OpenTherm is a standardised method of digital communication between boiler and thermostatic controls, which allows for more sophisticated boiler functions and ensures that systems are ready for any future developments. For this reason, if you are upgrading your heating system it's advisable to consider products with OpenTherm capabilities.

Some studies also show a 6% energy saving when using OpenTherm, on top of other savings gained from smart controls.

## SMART THERMOSTATS:

The latest generation of smart thermostats collect data and use AI to automatically optimise heating for your lifestyle. This maximises efficiency, but smart thermostats also allow homeowners to adjust temperature and timing from their phone, bringing increased practicality and control. Some boiler manufacturers offer their own smart controls, but the main brands are:

- Nest - made by Google
- Hive - British Gas's offering, which they say could save up to £130 a year on energy bills
- Tado – they claim their smart thermostat will pay for itself within a year by reducing energy use by up to 31%
- Netatmo – they say their smart thermostat will reduce your energy usage by up to 37%

Their figures work from the premise that heating is left on all day; if it isn't, you might not see such promising savings. However, the increased control smart thermostats bring could still benefit your lifestyle.

Want more information about smart thermostats? [www.theheatinghub.co.uk](http://www.theheatinghub.co.uk) has lots of good information and comparison tables between different brands. Also check [www.energysavingtrust.org.uk](http://www.energysavingtrust.org.uk)

## PREVENT HEAT LOSS

To really maximise the efficiency of domestic heating, heat loss must be minimised. You can have all the smart gadgets you like, but if heat is escaping through the building envelope then energy is being wasted.

### ROOF & WALLS:

According to the Energy Savings Trust, around 1/3 of heat is lost through walls and another 1/4 through the roof, so insulating your loft to the recommended 270 mm is a simple and cost-effective way of greatly increasing your home energy efficiency. Over its 40-year lifetime, loft insulation should pay for itself many times over in energy savings.

However, ceiling joists may not give you enough height to achieve the required depth of insulation and squashing it down will reduce its insulation value. To solve this issue, battens or loft legs can be screwed directly to the joists increasing the insulation space before the floor is fitted on top. This is a relatively simple task which can be done by the homeowner, or with professional help.

The Energy Savings Trust estimates the cost of installing 270mm loft insulation in the average uninsulated semi-detached house to be £300 with annual energy bill savings of £135 per year.

### WINDOWS & DOORS:

Our homes also lose a lot of heat through the windows. If your home is one of the 7% of UK households that doesn't have double glazing, then upgrading your windows could save up to £120 a year in heating costs as well as reducing draughts, cold spots and condensation build-up.

Draught-proofing is a cheap and easy way to combat wasted energy and immediately improve the comfort of your home. Preventing heat loss through leaky windows and doors could save you around £20 a year with the potential for additional savings if you can turn your thermostat down as a result.

### PIPEWORK:

Additional heat can be lost through pipework. If work is being carried out under floors or in the loft, it's worth checking that pipework is properly lagged while you're there.

## ENGAGE WITH THE ENERGY USER

Smart meters are the first step towards establishing a smart grid which will ensure that energy supply and demand is properly managed in the future. Smart meters are becoming a fixture in most domestic homes and small businesses. They give consumers valuable information about their energy consumption while collecting data about trends and demand to help energy companies use our precious resources more efficiently.

The smart meter rollout is the biggest national infrastructure project of our lifetime and is the just start of our journey to making home energy use and storage 'smart'. As of June 2019, there were around 15 million smart meters in operation and by 2024, energy companies will have offered a smart meter to every domestic and small business customer.

Having a smart meter installed will not save you money, however, it will give you a better understanding of your energy usage and the ways in which you can change your behaviour to save money and energy. Research by Smart Energy GB indicates that around 85% of people with smart meters have cut energy use by changing how they act around the house.

The role of electricity will increase in the future as we can use renewable and sustainable sources to generate it. With a rapidly growing number of Electric Vehicles (EVs) on the road, smart meters will really come into their own, allowing EV owners to track and potentially store energy when prices are low and charge their vehicles accordingly, as well as enabling other energy saving technologies.

## ENERGY SAVING QUICK WINS

There are also lots of small changes you can make easily and cheaply that will help you make significant savings long term.

### 1) TURN DOWN THE HEATING

Obvious but effective. Do people in your household wear T-shirts indoors in the winter? Wear jumpers and save money! Turning the thermostat down by 1 degree can save around £80 a year.

### 2) REPLACE OLD LIGHTBULBS WITH MODERN LEDS

LED lightbulbs have come down massively in price in recent years and they could reduce your electricity bill for lighting by up to 90%. It's one of the simplest and cheapest way to have a big impact on your energy usage and costs and doesn't require any special skills or disruption – do it today!

### 3) (LESS) POWER SHOWER

It's a common belief that showers use less water than baths, however, this is not always the case. If you have a high- volume power shower, you could benefit from an inline shower hose restrictor or eco shower head, which limit water usage while maintaining sufficient power.

**Test your shower:** Let the water from your shower collect in a bucket for one minute. If there are more than 9 litres after one minute's use then a flow restrictor could save you money on your water bills.

Inline shower hose restrictors limit flow to as little as 4 litres per minute and can be bought for just a few pounds. Eco shower heads (which usually have flow restrictors built-in) cost around £10-£20 and could save a four-person household around £70 a year on gas for water heating

### 4) DRAUGHT PROOF

Save around £20 a year by investing in some self-adhesive foam strips from your local hardware store. Block up gaps in windows and doors, including letter box and keyhole. Use thick curtains on windows and doors to prevent heat loss. Fill gaps in floorboards or around pipework with a silicone-based filler.

### 5) TAKE CONTROL OF YOUR HEATING

By installing a programmer, room thermostat and thermostatic radiator valves up to £80 a year can be saved. Ask your local Gas Safe registered engineer for advice if you are unsure.

### 6) INSTALL A SMART METRE

Smart meters help homeowners to monitor their energy use and change their behaviour accordingly to save energy and money. Energy suppliers will be offering smart meters on varying schedules over the next few years. If you want one early, you can ask but your energy supplier may not be ready. If they do offer you an early installation, make sure your device is SMETS2 compliant.

### 7) CHANGE YOUR BEHAVIOUR

Be conscious about your energy habits and only use what you need:

- Turn appliances off standby mode – potential savings of around £30 a year
- Only fill the kettle with the amount of water you need – potential savings of £6 a year
- Spend one minute less per day in the shower – potential savings of £7 a year per person

## 8) SWITCH ENERGY SUPPLIER

While not directly saving energy, switching who supplies your energy can at least save you money – as much as £400 a year. Use comparison and switching sites to find the best deal for you or download an app that automatically switches you to the best tariff. Choose an energy provider that supports clean, green energy.

## BEWARE THE 'REBOUND EFFECT'

Making changes to the energy efficiency of your home, whether it's a new boiler or better heating controls, will always have an impact on your levels of comfort. However, behavioural changes can sometimes offset any financial gain, for example, you might heat your home to a warmer temperature following energy efficiency improvements, wasting less energy but still using as much as you did before.

To really save money long-term, energy efficiency measures need to be supported by energy conservation measures and changes to habitual energy use, which is why smart meters are so important – together it all adds up.

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## ENERGY EFFICIENCY TOP TIPS

### Ways to save and keep warm this winter

